



# National Outbreak Reporting System

## Waterborne Disease Transmission



This form is used to report waterborne disease outbreak investigations. This form has 6 parts, indicated by tabs at the top of each page. Part 1 asks for the minimum or basic information about the outbreak investigation. Part 2 asks for epidemiological data and clinical specimen test results. Parts 3, 4, 5 and 6 collect information about types of water exposure (treated recreational water, untreated recreational water, drinking water, and water not intended for drinking/unknown intent). Only 1 of these 4 water exposure parts should be completed for an outbreak investigation report.

**CDC USE ONLY**

CDC Report ID

State Report ID

Form Approved  
OMB No. 0920-0004

### General Section

#### Primary Mode of Transmission (check one)

- Food (Complete CDC 52.13)
- Water (Complete tabs for General, Water-General and type of water exposure)
- Animal contact (Complete CDC 52.13)
- Person-to-person (Complete CDC 52.13)
- Environmental contamination other than food/water (Complete CDC 52.13)
- Indeterminate/Other/Unknown (Complete CDC 52.13)

#### Investigation Methods (check all that apply)

- Interviews only of ill persons
- Case-control study
- Cohort study
- Food preparation review
- Water system assessment: Drinking water
- Water system assessment: Nonpotable water
- Treated or untreated recreational water venue assessment
- Investigation at factory/production/treatment plant
- Investigation at original source (e.g., farm, water source, etc.)
- Food product or bottled water traceback
- Environment/food/water sample testing
- Other

#### Comments

### Dates (mm/dd/yyyy)

Date first case became ill (required) \_\_\_\_/\_\_\_\_/\_\_\_\_ Date last case became ill \_\_\_\_/\_\_\_\_/\_\_\_\_

Date of initial exposure \_\_\_\_/\_\_\_\_/\_\_\_\_ Date of last exposure \_\_\_\_/\_\_\_\_/\_\_\_\_

Date of report to CDC (other than this form) \_\_\_\_/\_\_\_\_/\_\_\_\_

Date of notification to State/Territory or Local/Tribal Health Authorities \_\_\_\_/\_\_\_\_/\_\_\_\_

### Geographic Location

Reporting state: \_\_\_\_\_

- Exposure occurred in multiple states
- Exposure occurred in a single state but cases resided in multiple states

Other states: \_\_\_\_\_

Reporting county: \_\_\_\_\_

- Exposure occurred in multiple counties in reporting state
- Exposure occurred in a single county but cases resided in multiple counties in reporting state

Other counties: \_\_\_\_\_

City/Town/Place of exposure: \_\_\_\_\_

*Do not include proprietary or private facility names*

### Primary Cases

Number of Primary Cases		Sex (estimated percent of the primary cases)				
# Lab-confirmed cases	(A)	Male		%		
# Probable cases	(B)	Female		%		
# Estimated total primary ill (if greater than sum A+B)						
	# Cases	Total # of cases for whom info is available	Approximate percent of primary cases in each age group			
# Died			<1 year	%	20-49 years	%
# Hospitalized			1-4 years	%	50-74 years	%
# Visited Emergency Room			5-9 years	%	≥ 75 years	%
# Visited health care provider (excluding ER visits)			10-19 years	%	Unknown	%

**Incubation Period, Duration of Illness, Signs or Symptoms for Primary Cases only**

Incubation Period <i>(circle appropriate units)</i>			Duration of Illness <i>(among recovered cases-circle appropriate units)</i>		
Shortest		Min, Hours, Days	Shortest		Min, Hours, Days
Median		Min, Hours, Days	Median		Min, Hours, Days
Longest		Min, Hours, Days	Longest		Min, Hours, Days
Total # of cases for whom info is available			Total # of cases for whom info is available		
<input type="checkbox"/> Unknown incubation period			<input type="checkbox"/> Unknown duration of illness		

**Signs or Symptoms *(\*refer to terms from appendix, if appropriate, to describe other common characteristics of cases)***

Feature	# Cases with signs or symptoms	Total # cases for whom info available
Vomiting		
Diarrhea		
Bloody stools		
Fever		
Abdominal cramps		
HUS		
Asymptomatic		
*		
*		
*		

**Secondary Cases**

Mode of Secondary Transmission <i>(check one)</i>	Number of Secondary Cases	
<input type="checkbox"/> Food <input type="checkbox"/> Water <input type="checkbox"/> Animal contact <input type="checkbox"/> Person-to-person <input type="checkbox"/> Environmental contamination other than food/water <input type="checkbox"/> Indeterminate/Other/Unknown	# Lab-confirmed secondary cases	(A)
	# Probable secondary cases	(B)
	Total # of secondary cases (if greater than sum A+B)	
	Total # of cases (Primary + Secondary)	

**Environmental Health Specialists Network *(if applicable)***

EHS-Net Evaluation ID: 1.) \_\_\_\_\_ 2.) \_\_\_\_\_ 3.) \_\_\_\_\_

**Traceback *(for food and bottled water only, not public water)***

Please check if traceback conducted

Source name <i>(If publicly available)</i>	Source type <i>(e.g. poultry farm, tomato processing plant, bottled water factory)</i>	Location of source		Comments
		State	Country	

**Recall**

Please check if any food or bottled water product was recalled

Type of item recalled:

Comments:

**Reporting Agency**

Agency name: \_\_\_\_\_ E-mail: \_\_\_\_\_  
 Contact name: \_\_\_\_\_ Contact title: \_\_\_\_\_  
 Phone no.: \_\_\_\_\_ Fax no.: \_\_\_\_\_

**Remarks *Briefly describe important aspects of the outbreak not covered above. Please indicate if any adverse outcomes occurred in special populations (e.g., pregnant women, immunocompromised persons)***



**Water-General**

Specimen Type*	Specimen Subtype**	Tested for § (list all that apply)

\* Specimen Type: 1- Autopsy Specimen (specify subtype), 2-Biopsy (specify), 3-Blood, 4-Bronchial Alveolar Lavage (BAL), 5-Cerebrospinal Fluid (CSF), 6-Conjunctiva/Eye Swab, 7-Ear Swab, 8-Endotracheal Aspirate, 9-Saliva, 10-Serum, 11-Skin Swab, 12-Sputum, 13-Stool, 14-Urine, 15-Vomit, 16-Wound Swab, 17-Unknown

\*\* Specimen Subtype: 1-Bladder, 2-Brain, 3-Dura, 4-Hair, 5-Intestine, 6-Kidney, 7-Liver, 8-Lung, 9-Nails, 10-Skin, 11-Stomach, 12-Wound, 13-Other, 14-Unknown

§ Tested for: 1-Bacteria, 2-Chemicals/Toxins, 3-Fungi, 4-Parasites, 5-Viruses

Enter positive findings in the table below. If tests for a specific pathogen/agent were negative, please also list that pathogen/agent and fill in the Specimen Type, Specimen Subtype, Test Type, Total # of People Tested and Total # of People Positive.

Clinical Specimen Row Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype
1				
2				
3				
4				
5				

Clinical Specimen Row Number	Confirmed as Etiology ?	Concentration (number)	Unit (e.g., oocysts, CFU)	Specimen Type *	Specimen Subtype **
1	<input type="checkbox"/> yes				
2	<input type="checkbox"/> yes				
3	<input type="checkbox"/> yes				
4	<input type="checkbox"/> yes				
5	<input type="checkbox"/> yes				

Clinical Specimen Row Number	Test Type §	Total # People Tested	Total # People Positive
1			
2			
3			
4			
5			

\* Specimen Type: 1- Autopsy Specimen (specify subtype), 2-Biopsy (specify), 3-Blood, 4-Bronchial Alveolar Lavage (BAL), 5-Cerebrospinal Fluid (CSF), 6-Conjunctiva/Eye Swab, 7-Ear Swab, 8-Endotracheal Aspirate, 9-Saliva, 10-Serum, 11-Skin Swab, 12-Sputum, 13-Stool, 14-Urine, 15-Vomit, 16-Wound Swab, 17-Unknown

\*\* Specimen Subtype: 1-Bladder, 2-Brain, 3-Dura, 4-Hair, 5-Intestine, 6-Kidney, 7-Liver, 8-Lung, 9-Nails, 10-Skin, 11-Stomach, 12-Wound, 13-Other, 14-Unknown

§ Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay

**Isolates**

State Lab Isolate ID	Specimen Profile 1 (e.g., PFGE, MLVA, or genotype)	Specimen Profile 2 (e.g., PFGE, MLVA, or genotype)

**Recreational Water – Treated Venue**

**Recreational Water Vehicle Description**

<b>Water Vehicle Number</b> <i>(e.g., 1, 2, 3)</i>	<b>Water Type</b> <i>(e.g., spa/whirlpool/hot tub; pool- swimming pool; pool- waterpark)</i>	<b>Water Subtype</b> <i>(select indoor, outdoor, or unknown)</i>	<b>Setting of Exposure</b> <i>(e.g., club, requiring membership; hotel/motellodge/inn; waterpark)</i>
<b>Water Vehicle Number</b> <i>(e.g., 1, 2, 3)</i>	<b>USUAL Water Treatment Provided at Venue</b> <i>(e.g., no treatment; coagulation; disinfection; flocculation; filtration (pool); unknown)</i>	<b>Venue Treatment Subtype</b> <i>(disinfection or pool filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)</i>	<b>Chlorination Subtype</b> <i>(chlorine disinfection only- e.g., gaseous; sodium hypochlorite; cyanurates /stabilized chlorine)</i>
<b>Water Vehicle Number</b> <i>(e.g., 1, 2, 3)</i>	<b>Fill Water Type</b> <i>(e.g., public water supply; sea water; untreated ground or surface water; unknown)</i>	<b>IF PUBLIC WATER WAS USED TO FILL, USUAL Water Treatment Provided for Fill Water Before Coming to the Venue</b> <i>(e.g., no treatment; disinfection; filtration (treatment plant); unknown)</i>	<b>IF PUBLIC WATER WAS USED TO FILL, Fill Water Treatment Subtype</b> <i>(disinfection or pool filtration: e.g., UV; chlorine dioxide; bag filter; cartridge filter; unknown)</i>

**Recreational Water Quality**

Did the venue meet state or local recreational water quality regulations?     Yes     No     Unknown     Not applicable

If **No**, explain: \_\_\_\_\_

Was there a pool operator on the payroll with state-approved training or certification?     Yes     No     Unknown

**Laboratory Section - Recreational Water Samples from Treated Venues**

Was water from treated recreational water venues tested?     Yes *(specify in table below)*     No     Unknown

<b>Results Sample</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Source of Sample</b> <i>(e.g., swimming pool, hot tub)</i>					
<b>Additional Description of Source of Sample</b> <i>(e.g., specific location, time of day, backwash sample, etc.)</i>					
<b>Date</b> <i>(mm/dd/yyyy)</i>					
<b>Volume Tested</b>	<b>Number</b>				
	<b>Unit</b>				
<b>Temperature</b>	<b>Number</b>				
	<b>Unit</b>				
<b>Residual/Free Disinfectant Level</b> <i>(if total and combined disinfectant levels given, total - combined = free)</i>	<b>Number</b>				
	<b>Unit</b>				
<b>Combined Disinfectant Level</b> <i>(if total and free disinfectant levels given, total - free = combined)</i>	<b>Number</b>				
	<b>Unit</b>				
<b>pH</b>					

**Microbiology or Chemical/Toxin Analysis** (refer to the laboratory findings from the outbreak investigation)

Sample Number	Genus/ Chemical/ Toxin	Species	Serotype/ Serogroup/ Serovar	Genotype/ Subtype	PFGE Pattern
Sample Number	Test Results Positive?	Concentration (number)	Unit (e.g., oocysts, CFU)	Test Type*	Test Method (reference: National Environmental Methods Index: <a href="http://www.nemi.gov">http://www.nemi.gov</a> )
	<input type="checkbox"/> yes				
	<input type="checkbox"/> yes				
	<input type="checkbox"/> yes				

\* Test Type: 1-Culture, 2-DNA or RNA Amplification/Detection (e.g., PCR, RT-PCR), 3-Microscopy (e.g., fluorescent, EM), 4-Serological/Immunological Test (e.g., EIA, ELISA), 5-Phage Typing, 6-Chemical Testing, 7-Tissue Culture Infectivity Assay

**Factors Contributing to Recreational Water Contamination and/or Increased Exposure in Treated Venues**

Factors (check all that apply)**		Documented/ Observed***	Suspected***
PEOPLE	Out of compliance with bather load/density requirements	<input type="checkbox"/>	<input type="checkbox"/>
	Primary intended use of water is by diaper/toddler-aged children (e.g., kiddie pool)	<input type="checkbox"/>	<input type="checkbox"/>
	Heavy use by child care center groups	<input type="checkbox"/>	<input type="checkbox"/>
	Fecal/vomitus accident	<input type="checkbox"/>	<input type="checkbox"/>
	Patrons continued to swim when ill or within 2 weeks of being ill	<input type="checkbox"/>	<input type="checkbox"/>
FACILITY DESIGN	Operator error	<input type="checkbox"/>	<input type="checkbox"/>
	Intentional contamination (explain in remarks)	<input type="checkbox"/>	<input type="checkbox"/>
	Combined pool filtration systems led to cross-contamination	<input type="checkbox"/>	<input type="checkbox"/>
	Hygiene facilities inadequate or distant (e.g., no toilets, no diaper changing facilities)	<input type="checkbox"/>	<input type="checkbox"/>
	Spray feature water demand higher than treatment system capacity so water returns to features and bypasses filtration/treatment system	<input type="checkbox"/>	<input type="checkbox"/>
	No supplemental disinfection installed that would have inactivated pathogen (e.g., <i>Cryptosporidium</i> )	<input type="checkbox"/>	<input type="checkbox"/>
	Water temperature $\geq 30^{\circ}\text{C}$ ( $\geq 86^{\circ}\text{F}$ )	<input type="checkbox"/>	<input type="checkbox"/>
	Cross-connection with wastewater or non-potable water	<input type="checkbox"/>	<input type="checkbox"/>
	Disinfectant control system malfunctioning, inadequate, or lacking (e.g., hand feed)	<input type="checkbox"/>	<input type="checkbox"/>
	Incorrect settings on disinfectant control system	<input type="checkbox"/>	<input type="checkbox"/>
MAINTENANCE	pH control system malfunctioning, inadequate, or lacking (e.g., hand feed)	<input type="checkbox"/>	<input type="checkbox"/>
	Incorrect settings on pH control system	<input type="checkbox"/>	<input type="checkbox"/>
	Filtration system malfunctioning or inadequate (e.g., low flow rate)	<input type="checkbox"/>	<input type="checkbox"/>
	Supplemental disinfection system malfunctioning (e.g., ultraviolet light, ozone)	<input type="checkbox"/>	<input type="checkbox"/>
	Insufficient system checks so breakdown detection delayed	<input type="checkbox"/>	<input type="checkbox"/>
	No preventive maintenance programs to reduce breakdowns	<input type="checkbox"/>	<input type="checkbox"/>
	Remote monitoring system in use	<input type="checkbox"/>	<input type="checkbox"/>
	Ventilation insufficient for indoor aquatic facilities	<input type="checkbox"/>	<input type="checkbox"/>
	Chemical handling error (e.g., chemical hookup, improper mixing or application)	<input type="checkbox"/>	<input type="checkbox"/>
	Maintenance chemicals not flushed from system before opening to swimmers	<input type="checkbox"/>	<input type="checkbox"/>
	Low or zero water flow combined with continuous feed of chemicals resulted in excess chemicals in water	<input type="checkbox"/>	<input type="checkbox"/>
	Extensive slime/biofilm formation	<input type="checkbox"/>	<input type="checkbox"/>
	Recent construction	<input type="checkbox"/>	<input type="checkbox"/>
	Cyanurate level excessive	<input type="checkbox"/>	<input type="checkbox"/>
	Lack of draining/cleaning	<input type="checkbox"/>	<input type="checkbox"/>
POLICY AND MANAGEMENT	Stagnant water in spa piping was aerosolized	<input type="checkbox"/>	<input type="checkbox"/>
	No aquatics operators on payroll who have received state/local certified training	<input type="checkbox"/>	<input type="checkbox"/>
	Untrained/inadequately trained staff on duty	<input type="checkbox"/>	<input type="checkbox"/>
	Unclear communication chain for reporting problems	<input type="checkbox"/>	<input type="checkbox"/>
	Inadequate water quality monitoring (e.g., inadequate test kit, inadequate testing frequency)	<input type="checkbox"/>	<input type="checkbox"/>
	Employee illness policies absent or not enforced	<input type="checkbox"/>	<input type="checkbox"/>
	Missing or poor chemical handling policies, practices, and training	<input type="checkbox"/>	<input type="checkbox"/>
	No operator on duty at the time of incident	<input type="checkbox"/>	<input type="checkbox"/>
	Facility falls outside aquatic health code	<input type="checkbox"/>	<input type="checkbox"/>
	No shock/hyperchlorination policy	<input type="checkbox"/>	<input type="checkbox"/>
Other, specify:	<input type="checkbox"/>	<input type="checkbox"/>	
Unknown	<input type="checkbox"/>	<input type="checkbox"/>	

\*\* Only check off what was found during investigation

\*\*\* "Documented/Observed" refers to information gathered through document reviews, direct observations, and/or interviews. "Suspected" refers to factors that probably occurred but for which no documentation (as defined previously) is available.

**Remarks**